

## **REMARKS**

### **Summary**

Claims 1-74 were pending. Claims 56-74 have been cancelled; Claims 7-8, 12-13, 30-34, 38-39 and 54 rewritten, and Claims 75-76 added. No new matter has been added as a result of this amendment. Claims 1-55 and 75-76 are pending after entry of this amendment. Support for the changes to Claims 7, 12, 33, and 38 can be found on p. 5, lines 13-18 of the specification, for example. Claims 8, 13, 34 and 39 have been rewritten for grammatical purposes only; the area recited in these claims has not been altered.

### **Restriction/Election**

In the Office Action, the Examiner indicated that Applicants' Election filed October 18, 2004 was made without traverse. As indicated in the Election, Applicants elected Claims 1-55 with traverse. However, Applicants have cancelled Claims 56-74, so this matter is moot.

### **New Oath/Declaration**

In the Office Action, the Examiner indicated that the declaration is defective for numerous reasons. Applicants submit that the declaration submitted on April 10, 2002 is in compliance with 37 CFR 1.67(a). Applicants enclose a copy of the previously-submitted declaration for the Examiner's convenience. Applicants respectfully request that the Examiner withdraw the requirement for a new declaration to be submitted in the next Office Action.

### **Objection to Drawings**

In the Office Action, the Examiner objected to Figs. 2A and 2B as having reference numbers directed to the wrong components. Applicants herein supply formal replacements of Figs. 2A and 2B and respectfully request that the Examiner withdraw the objection in the next Office Action.

## Rejection of Claims

In the Office Action, Claims 1-6, 8, 10-11, 13, 15-16, 18, 20-32, 34, 36-37, 39, 41-45, and 47-55 were rejected under 35 U.S.C. §103(a) as being unpatentable over DeTemple (U.S. Patent 6,016,027) in view of Yamamoto (U.S. Patent 5,691,608), Claims 7, 9, 12, 14, 19, 33, 35, 38, 40, and 46 were rejected under 35 U.S.C. §103(a) as being unpatentable over DeTemple in view of Yamamoto further in view of Yi (U.S. Patent 6,147,349). Claims 17 and 44 were objected to as being dependent on a rejected base claim but the Examiner indicated they would be allowable if rewritten in an independent form including all of the limitations of the base claim and any intervening claims. Applicants traverse the rejections and submit that a *prima facie* case of obviousness has not been made.

Claim 1 recites a microdischarge device that contains a first layer having a tapered cavity disposed therein, an intermediate layer on the first layer, and a second layer on the intermediate layer. The intermediate layer electrically insulates the first layer from the second layer. The first and second layers have a conductivity larger than that of the intermediate layer.

DeTemple teaches a microdischarge device that contains a layer with a cavity, however, this cavity is not tapered. The Examiner indicates that Yamamoto teaches a display apparatus that contains a layer with a tapered cavity. The Examiner states that it would have been obvious to combine DeTemple and Yamamoto in order to improve the efficiency of the emitting light exiting the device as well as improving the luminescence and brightness. Applicants traverse the rejections and submit that a *prima facie* case of obviousness has not been made.

In order to make a case of *prima facie* obviousness, it must at least be shown that the reference can be modified in accordance with the suggestion in another reference or in accordance with the skill of an ordinary practitioner in the art. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Any motivation to modify the prior art references must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed Cir. 1995); *In re Gorman*, 933 F.2d 982, 986-87, 18 USPQ2d 1885, 1888, (Fed. Cir. 1991).

The Examiner has not made out a *prima facie* case of obviousness. There is no suggestion in the references, explicit or implicit, to combine their teachings of the individual references to reach the apparatus claimed by Applicants.

More specifically, Applicants traverse the rejection at least as the devices of DeTemple and Yamamoto are completely different; they are based on different principles and function in different manners. DeTemple teaches a discharge device in which discharge of light is generated in the gas contained in a cavity. Yamamoto, on the other hand, teaches a device in which an electron beam is generated by a solid state electron beam generating device.

Although Yamamoto teaches V-shaped recesses (in Fig. 3 and corresponding text), Yamamoto merely illustrates that the recesses are V-shaped but does not provide any particular reason for forming V-shaped recesses. In fact, the sole purpose of the recesses is to expose the depletion layers of the p-n junctions in order to permit the electrons generated by avalanche in the depletion layers to emerge from the semiconductor into the vacuum, allowing the electrons to be accelerated by the electrode and eventually travel to the picture elements. Neither electrons nor light are generated in these recesses. The apparatus taught by Yamamoto is simply not a microdischarge device.

Further, in Yamamoto's apparatus, the generated electrons are supplied to a vacuum and transported to picture elements. That is, the recesses are in a vacuum in Yamamoto. This is entirely unlike the discharge device of DeTemple, in which a gas is present in the cavity in order to generate light.

To summarize, DeTemple teaches a microdischarge device in which a) light is generated b) in a cavity containing c) a gas. Yamamoto, on the other hand, teaches an image display apparatus in which a) electrons are generated b) in a semiconductor and the cavity is c) in a vacuum.

The sole motivation provided by the Examiner to combine and modify the teachings of the references arises from the arrangement disclosed by Applicants' specification. This, however, constitutes improper use of hindsight to read the teachings of Claim 1 into the references. "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." *Para-Ordnance Mfg. v. SGS Importers Int'l*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995) (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983)). "The mere fact that the prior art may

be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” No motivation exists in either DeTemple or Yamamoto to combine the V-shaped grooves of Yamamoto with the device of DeTemple.

Moreover, it is clear from the teachings of DeTemple and Yamamoto that these references teach completely different devices, which are based on different principles and function in completely different ways. Although semiconductors are used by both DeTemple and Yamamoto, merely finding similar materials or shapes that are used in a variety of dissimilar situations does not constitute evidence of a motivation to combine. “Substantially all inventions are the combination of old elements; what counts is the selection out of all their possible permutations, of that new combination which will be serviceable.” *Safety Car Heating and Lighting Co. v. General Electric Co.*, 155 F.2d, 937, 939 (2d Cir, 1946).

As is apparent, the Examiner substituted V-shaped recesses from one device and applied them to a completely different device.

Furthermore, not only do the devices in the references operate in wholly different manners, the devices actually cannot be combined. The combination of the arrangement of Yamamoto with that of DeTemple would change the principles of operation of the devices. For example, the combination of the recesses taught by Yamamoto, which contain a vacuum, with the device taught by DeTemple would result in an inoperative device in that DeTemple requires gas in a cavity to be excited to produce the light. As the federal circuit has held, “if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

For at least these reasons, a *prima facie* case of obviousness has not been made out. Thus, Claim 1 is patentable over the cited references.

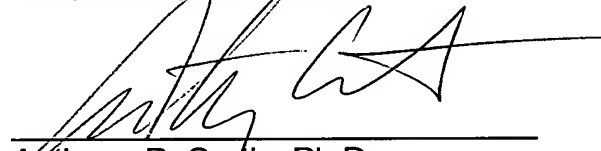
Claims 2-28 and 75 are dependent on Claim 1, and are allowable, without more, as claims dependent on, and further limiting, an allowable claim.

For similar reasons, Claim 29 is patentable over the cited references. Claims 30-55 and 76 are dependent on Claim 29, and are allowable, without more, as claims dependent on, and further limiting, an allowable claim.

## **Conclusion**

In view of the amendments and arguments above, Applicants respectfully submit that all of the pending claims are in condition for allowance and seek an allowance thereof. If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anthony P. Curtis', is written over a horizontal line.

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